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**COMBINATIONS OF  
UNBUNDLED NETWORK ELEMENTS  
PANEL THREE: COLLOCATION**

**AMERITECH'S VIEW OF ACCESS TO  
UNBUNDLED NETWORK ELEMENTS AT THE INCUMBENT'S  
PREMISES**



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*Physical collocation, in addition to being the only authorized method, is the optimum method to access unbundled network elements at the incumbent's premises. It is a proven and tested procedure, it maximizes network reliability and security for all carriers, and administratively it facilitates a clear division of responsibility among multiple network providers located at a single location.*

*The purpose of this paper is to summarize Ameritech's position regarding the following collocation topics: Collocation – Legal obligations under the 1996 Telecommunications Act; Implications of Iowa Utilities Board; Proposed Prima Facie Showing; and results of an Internal Demonstration of Combinations.*

**I. COLLOCATION IS THE ONLY AUTHORIZED METHOD FOR OBTAINING ACCESS TO UNBUNDLED NETWORK ELEMENTS AT THE INCUMBENT'S PREMISES FOR THE PURPOSE OF COMBINING SUCH ELEMENTS.**

The Commission recently stated that it has not decided whether collocation is an acceptable, let alone the only, method authorized by the 1996 Act to permit requesting carriers to access and combine unbundled network elements. *See BellSouth South Carolina § 271 Order at ¶ 199.* The Bureau Staff has been slightly more definitive. In Chairman Kennard's letter responding to Senators McCain and Brownback, dated March 20, 1998, the attached Staff response stated:

While it is unclear from *Iowa Utilities Board* whether the Act requires unbundled network elements to be provided on a physically separated basis, or whether the Act allows competing carriers to have physical access to the BOC's networks in order to combine network elements without the use of physical collocation, at a minimum, Bureau Staff believes that the BOC must demonstrate that at least one of the methods it offers satisfies the statutory nondiscriminatory requirement. Staff believes that a BOC may satisfy this requirement by, for example, providing physical or virtual collocation, direct access, mediated access, logical or electronic methods for combining network elements, or combining the network elements on behalf of competing carriers for a separate charge. (Emphasis added.)

The Commission's uncertainty is perplexing. Until recently, the Commission had stated that collocation was the only authorized method required by the Act to obtain access to unbundled network elements if such access was requested at the incumbent's premises. The Eighth Circuit's Opinion in *Iowa Utilities Board* is fully consistent with this conclusion. First, as shown below, the plain language of §§ 251(c)(3) and 251(c)(6), and the Commission's past interpretation of those terms, demonstrate that collocation is the only method authorized by the Act to access unbundled network elements at the incumbent's premises. Second, because collocation is the only authorized method of physical access at the incumbent's premises, any other mandated method of physical access would constitute a "takings" in violation *Bell Atlantic v. FCC*. Finally, in addition to a lack of statutory authority, physical occupation of the incumbent's central office – other than by collocation – is not technically feasible due to network reliability and security concerns.

**A.     The Plain Language of Sections 251(c)(3) and 251(c)(6)  
Provide for Collocation to Access Unbundled Network  
Elements at the Incumbent's Premises.**

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Our analysis begins with the Act. § 251(c)(3) requires incumbents to provide "access" to network elements "on an unbundled basis" . . . "at any technically feasible point" . . . "in accordance with the requirements of this section and § 251" . . . "in a manner that allows requesting carriers to combine such elements . . . ." § 251(c)(6) expressly requires incumbents to provide "physical collocation of equipment necessary for 'access' to

unbundled network elements 'at the premises of the local exchange carrier' or "to provide 'virtual collocation' if 'physical collocation' is not practical for technical reasons or because of space limitations." The meaning of each of these key statutory phrases, as previously interpreted, is described below.

1. **"On an unbundled basis"**. § 251(c)(3) requires that the new entrant itself physically combine unbundled network elements leased from the incumbent. As the Court of Appeals held, the term "unbundled," understood in the context of § 251(c)(3) as a whole, means physically separated as well as separately priced. The Commission at one time shared this understanding: "the terms 'access' to network elements 'on an unbundled basis' mean that the incumbent [carriers] must provide the facility or functionality of a particular element to requesting carriers, separate from the facility or functionality of other elements, for a separate fee." *First Report and Order*, ¶ 268.

2. **"At any technically feasible point"**. § 251(c)(3) requires incumbents to provide "nondiscriminatory access to network elements on an unbundled basis *at any technically feasible point*." (Emphasis added.) The term "at any technically feasible point" undeniably has a physical dimension. The noun "point" refers to a physical place in the physical world. The adjective phrase "technically feasible" makes sense only in the context of obtaining actual *physical* access to a network element. As the Eighth Circuit found: "by its very terms, this provision only indicates *where* unbundled access may occur, . . . ." *120 F. 3d at 810* (emphasis in original). The technically feasible point, however, does not define the method of access to that point. The actual "point" of access to unbundled network elements depends upon the element being requested. The method of

access to that "point" depends on which of the three areas where access takes place: (1) the incumbent's premises, (2) the requesting carrier's premises or (3) an area between those locations; e.g., a "meet point" arrangement. As described below, if "access" takes place at the "incumbent's premises," then the terms of § 251(c)(6) control.

3. **"Access" to unbundled elements.** The Commission has concluded that "access" to an unbundled network element refers to the means by which the requesting carrier obtains the unbundled element: "We conclude, based on the terms of §§ 251(c)(2), 251(c)(3) and 251(c)(6), that an incumbent LEC's duty to provide 'access' constitutes a duty to provide a connection to a network element . . . ." *First Report and Order* at ¶ 269. (Emphasis added.) Therefore, as the Commission has found, "access" can be provided by providing a "connection" such as jumper cables and cross-connects to a requesting carrier at a designated location.

4. **At the "incumbent's premises."** If access to unbundled network elements is requested at the incumbent's premises, then § 251(c)(6) and the Commission's Rule 51.321(b)(1) limit the methods for obtaining such access to physical or virtual collocation. In determining the locations where access to unbundled network elements could take place, the Commission noted: "physical and virtual collocation are the only methods of interconnection and access specifically addressed in § 251 . . . . Under § 251, the only limitation on an incumbent LEC's duty to provide interconnection or access to unbundled network elements at any technically feasible point is addressed in § 251(c)(6) regarding physical collocation." *First Report and Order* at ¶ 550.

The Commission noted, however, that the broad language in §§ 251(c)(2) and 251(c)(3) regarding interconnection or access “at any technically feasible point” should not be construed to limit interconnection or access to unbundled network elements only to those areas where collocation is required – that is, within the incumbent’s central offices. Instead, the Commission correctly concluded that other methods of interconnection or access, if technically feasible, could take place outside the incumbent LEC’s central office – such as “meet point interconnection arrangements.” As the Commission explained, in a meet point interconnection arrangement the “point” of interconnection is still in the incumbent LEC’s network (e.g., the trunk side of the switch): “. . . and the limited build out of facilities from that point may then constitute an accommodation of interconnection. In a meet point arrangement, each party pays its portion of the costs to build out the facilities to the meet point. We believe that, although the Commission has authority to require incumbent LECs to provide meet point arrangements upon request, such an arrangement only makes sense for interconnection pursuant to § 251(c)(2) but not for unbundled access under § 251(c)(3).” *First Report and Order at 553* (emphasis added). Consistent with its conclusion that “meet point” arrangements only made sense for interconnection, the Commission’s rules provide only for “meet point interconnection arrangements.” *See Rule 51.321(b)(2).*

Likewise, the only method described in the Commission’s rules for obtaining access to unbundled network elements *at the ILEC’s premises* is collocation. *See Rule 51.321(b)(1).* Moreover, the fact that collocation is the only permitted form of physical occupation at the incumbent’s premises is confirmed by the Commission’s rules that define the standards for physical collocation: Rule 51.323(h)(2) provides “an incumbent LEC is

not required to permit collocating telecommunications carriers to place their own connecting transmission facilities within the incumbent LEC's premises outside of the actual physical collocation space."

**B. Collocation is the Only "Authorized" Method of Physical Occupation Authorized by the Act.**

In *BellAtlantic v. FCC*, 24 F. 3d 1441 (D.C. Cir. 1994) the Court of Appeals found that the Commission had no statutory authority to require physical occupations in the incumbent's central offices. At issue in *BellAtlantic* were the Commission's rules requiring physical collocation for competitive access providers. The Court held:

The Commission's power to order "physical connections," undoubtedly broad scope, does not supply a clear warrant to grant third parties a license to exclusive physical occupation of a section of the LEC's central offices . . . . We hold that the Act does not expressly authorize an order of physical collocation and thus the Commission may not impose it. 24 F. 3d 1446 - 1447

Statutory authority to impose collocation was provided in the 1996 Act. As the Commission found: "new Section 251(c)(6) *expressly* requires incumbent LECs to provide physical collocation, absent space or technical limitations. Where such limitations exist, the statute *expressly* requires virtual collocation." *First Report and Order* at ¶ 616. (Emphasis in original.) Therefore, the only expressed statutory authority to order a "physical occupation" or a "physical invasion" at the incumbent's premises is collocation. Other forms of physical access, such as direct access and permanent attachment of facilities to the incumbent's central office equipment, would be an unauthorized taking. *See, e.g., Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982).

The fact that the Commission does not consider virtual collocation to constitute a taking (*See First Report and Order at ¶ 616*), does not authorize other forms of physical occupations or right to entry at the incumbent LEC's central office. This is so because virtual collocation is factually distinguishable from direct access or other physical forms of occupation or invasions. As defined by the Commission: "under virtual collocation, unlike physical collocation, interconnectors have no right to enter LEC-owned premises or to install their own equipment at such locations." *Virtual Collocation Order, 9 FCC Rcd. at 5163*.

**C. Collocation is the Only Technically Feasible Method of Physical Occupation at the Incumbent's Premises.**

In addition to a lack of statutory authority, physical occupation at an ILEC's premises other than physical collocation is not technically feasible because of undisputed network reliability and security concerns, not only for the ILEC, but for all other carriers collocated at those premises. The Commission has long acknowledged that network reliability and security must be considered in evaluating the technical feasibility of access to incumbent LEC networks. Negative network reliability affects are necessarily contrary to a finding of technical feasibility. As the Commission concluded: "each carrier must be able to retain responsibility for the management, control and performance of its own network." *First Report and Order, ¶ 203*. And for these reasons, the Commission's current rules provide: "an incumbent LEC may require reasonable security arrangements to separate a collocating telecommunications service carrier's space from the incumbent LEC's facilities." *Rule 51.323(i)*. Methods of physical access other than physical collocation -- in addition to being unauthorized by Congress -- do not offer acceptable assurance of



network reliability and security. *See, e.g., Rule 5132(b)(2)* (restricting requesting carriers' to areas within their own physical collocation space).

## **II. COLLOCATION IS CONSISTENT WITH IOWA UTILITIES BOARD**

Apparently, one source of the Commission's recent uncertainty regarding collocation stems from certain rulings in *Iowa Utilities Board*. In the *BellSouth South Carolina 271 Order*, the Commission did not decide whether collocation was an acceptable method of providing access to unbundled network elements to allow a requesting carrier to combine such elements. The Commission explained: "we are still evaluating the implications of these rulings [in *Iowa Utilities Board*] and whether they may compel a result that would require methods other than, or in addition to, collocation for combining network elements." *BellSouth South Carolina 271 Order* at ¶ 199. As discussed below, none of the rulings referenced in the *BellSouth South Carolina 271 Order* are inconsistent with the Commission's original conclusion that collocation is the only method of obtaining access to unbundled network elements at the incumbent's premises.

"Access to their networks." In overturning the Commission's rules that require incumbents, rather than requesting carriers, to combine unbundled network elements, the Eighth Circuit held:

Despite the Commission's arguments, the plain meaning of the Act indicates that the requesting carriers will combine the unbundled network elements themselves. . . . Moreover, the fact that incumbent LECs object to this rule indicates to us that they would rather allow entrants access to their networks than have to rebundle the elements for them. *120 F. 3d at 813*. (Emphasis added.)

Nothing in this determination undermines § 251(c)(6). To the extent “access to their network” would be to access unbundled network elements at the incumbent’s premises, then the only statutorily authorized method of access is collocation as provided for in § 251(c)(6). The Eighth Circuit’s ruling certainly does not change that result – either expressly or by implication.

**“The all elements rule.”** In approving the so called “all elements” rule, the Eighth Circuit also held:

We now decide merely that under subsection 251(c)(3) a requesting carrier is entitled to gain access to all of the unbundled elements that, when combined by the requesting carrier, are sufficient to enable the requesting carrier to provide telecommunications service. *120 F. 3d at 815.*

This is one of the issues pending before the United States Supreme Court. Cross-petitioners, including Ameritech, contend that the “all elements rule” destroys the statutory distinction between unbundled network elements and resale. Even putting aside this dispute, the Eighth Circuit’s ruling that a requesting carrier can “gain access to all of the unbundled elements,” is not inconsistent with the Commission’s original conclusion that collocation is an acceptable method of obtaining “access” if such access occurs within the incumbent’s premises. Collocation, as Ameritech currently provides it, in fact will allow new entrants access to all unbundled network elements needed to provide telecommunications service.

**“A portion of the network.”** Before the Court of Appeals, certain petitioners asserted “that a competing carrier should own or control some of its own local exchange facilities before it can purchase and use unbundled elements from an incumbent LEC to provide a

telecommunications service.” *120 F. 3d at 814*. The Eighth Circuit rejected that position, finding that 251(c)(3) permitted a requesting carrier to provide telecommunications service “completely through access to the unbundled elements of an incumbent LEC’s network.”

The Court held:

Nothing in this section requires a competing carrier to own or control some portion of a telecommunications network before being able to purchase unbundled elements. *120 F. 3d at 814*.

Some new entrants have speculated that the “equipment necessary for . . . access to unbundled network elements” that may be collocated at the incumbent’s premises pursuant to § 251(c)(6) is somehow at odds with the Eighth Circuit’s conclusion that a competing carrier can gain access to “all of the unbundled elements” needed to provide a service. Of course, there is no inconsistency. The requesting carrier’s equipment needed to gain access to a network element is not a network element. Network elements are facilities and equipment owned by the incumbent. Equipment which is “necessary to access” a network element, and which is physically collocated in an incumbent’s central office, is not owned or controlled by the incumbent. Rather, as the Commission itself has recognized: “generally, the only equipment used for . . . access to unbundled elements is the cross-connect equipment.” *First Report and Order at ¶ 581, fn. 1417*. Cross-connect equipment that is owned and controlled by the requesting carrier is not a network element, and therefore, is not inconsistent with the Eighth Circuit’s affirmance of the Commission’s “all element rule.”

**III. A PROPOSED “PRIMA FACIE CASE” TO DEMONSTRATE THAT AN INCUMBENT’S COLLOCATION OFFERING PROVIDES NONDISCRIMINATORY ACCESS TO UNBUNDLED NETWORK ELEMENTS FOR THE PURPOSE OF COMBINING SUCH ELEMENTS.**

**A. The meaning of "nondiscriminatory" in Sections 251(c)(3) and 251(c)(6).**

Section 251(c)(3) requires an incumbent to provide "nondiscriminatory access" to unbundled network elements. § 251(c)(6) requires an incumbent to provide collocation on terms and conditions that are "nondiscriminatory." Obviously, "nondiscriminatory" in the context of §§ 251(c)(3) and 251(c)(6) does not mean the "same" access that the incumbent provides to itself. The incumbent has already assembled its facilities and equipment into a functioning network. Thus, an incumbent accesses its own network on a bundled basis. By contrast, the 1996 Act requires, and the Court of Appeals ruled, that a requesting carrier's access to network elements is provided on a "unbundled basis." The requesting carrier combines the unbundled network elements to create its own alternate competing network. In addition, the incumbent, as the owner of its premises, has unfettered access to its property and its facilities and equipment. In contrast, a requesting carrier's physical access is statutorily restricted to physical collocation, and such access is limited to that actual physical collocation space. *See Rule 51.323(h)(2).*

Therefore, "nondiscriminatory access" within the meaning of §§ 251(c)(3) and 251(c)(6) requires that an incumbent treat all requesting carriers in a nondiscriminatory manner, consistent with the Commission's regulations describing standards for collocation, and that the incumbent's collocation offering permits a requesting carrier to obtain access to unbundled network elements in a manner that allows the new entrant to combine such elements to provide telecommunications service.

**B. Proposed prima facie case.**

A BOC must make a *prima facie* showing that its § 271 application meets each of the fourteen "competitive checklist" items. *See* § 271(c)(2)(B). Collocation is not a separate checklist item. However, a BOC must demonstrate that it provides nondiscriminatory access to network elements in accordance with § 251(c)(3). The Commission has concluded that if a BOC provides "access" to unbundled network elements through collocation it must demonstrate that it: makes collocation available pursuant to legally binding and concrete terms and conditions; timely implements such collocation arrangements; and delivers requested unbundled network elements to such collocation space in a manner that allows the requesting carrier to combine such elements to provide telecommunications service. *See BellSouth South Carolina § 271 Order at ¶¶ 195-209.*

To show that these items are legally available, a BOC should demonstrate that its method of access is subject to legally binding terms and conditions that include complete prices approved by the State Commission. Under the statute, prices for collocation must be 'just and reasonable.' The statutory standard in § 252(d)(2) does not expressly apply to collocation. To show that these items are practically available, a BOC should demonstrate that a process exists for ordering collocation and unbundled network elements within specified intervals and subject to terms and conditions contained in an approved interconnection agreement or an approved statement of generally available terms. Therefore, a *prima facie* showing to demonstrate that a collocation offering was available to "access" unbundled network elements would include some or all of the following:

1. All unbundled network elements and collocation needed to offer an end-to-end service are legally and practically available, including:
  - unbundled loops
  - unbundled local switching (custom routing, line port, and trunk port connections)
  - unbundled interoffice transport facilities
  - unbundled directory assistance and operator services (either unbranded or branded)
  - virtual or physical collocation with all required cabling into the requesting carrier's collocation space
2. The incumbent provides the information that a requesting carrier needs to order collocation and unbundled network elements and to combine such elements into an alternate competing network to provide its own telecommunications service.
3. The collocation can be ordered within reasonable intervals.
4. The unbundled network elements and connections into the requesting carrier's collocation space can be ordered electronically through the incumbent's OSS within normal reasonable intervals.
5. The service parameters and quality of the unbundled network elements delivered to the collocation space, are within normal specifications for the unbundled network element and are in parity with access provided to other requesting carriers.
6. The requesting carrier can cross-connect the unbundled network elements in its physical collocation space to provide telecommunications services.

7. If properly combined by the requesting carrier, the unbundled network elements will support call flows without loss of functionality or call quality.
8. The requesting carrier can successfully isolate trouble in its service and either repair its facilities or have the incumbent repair its facilities at parity.
9. The requesting carrier receives the timely and accurate data it needs to bill its end user customers, including daily usage.

### **III. INTERNAL COMBINATION DEMONSTRATION**

Recently, Ameritech conducted an internal demonstration in Chicago, Illinois using physical and virtual collocation. The demonstration consisted of two end office switches, a tandem switch and an operator services and directory assistance (OS/DA) switch.

Unbundled local transport was used between the end office switches and the tandem and between the end office switches and the OS/DA switch. Two unbundled loops, two unbundled local switching line ports and two trunk ports were ordered from each end office switch.

**Approach.** The demonstration allowed for the testing of live traffic over an alternate network made up of unbundled network elements accessed through collocation. This experience validated that a requesting carrier could access unbundled network elements through collocation and combine such elements to create a fully functional alternate telecommunications network of its own. The approach was to duplicate the necessary

steps a requesting carrier would take to combine unbundled network elements where access was provided using collocation, both physical and virtual. The following functions were included:

- Ordering – Using Ameritech's existing website TC.Net, other published sources and Ameritech's electronic ordering system.
  - Infrastructure
    - Unbundled local transport
    - Unbundled tandem switching
    - Unbundled local switching - custom routed trunk ports
    - Unbundled Operator Services and Directory Assistance
  - Customer-Specific
    - Unbundled local switching - line port
    - Unbundled local loop
- Combinations of the above unbundled network elements at both physical and virtual collocation sites
- Test calls, including proper call terminations and call quality
- Maintenance and repair isolation functions
- Billing verification
  - AMA to DUF
  - Monthly recurring and non-recurring

**Conclusion.** The demonstration validated that unbundled network elements can be combined by a requesting carrier using its own equipment and personnel when such access is obtained using collocation.

- Confirmed the ability of requesting carriers to physically combine unbundled network elements into a fully functional alternate telecommunications network using cross-connect equipment in either physical or virtual collocation space.



- Validated that no special equipment, tools or knowledge is required to physically combine unbundled network elements or to maintain or repair them.
- Validated that an alternate network can originate and receive calls to and from any customer connected to the public switched network with no dialing pattern changes, and within normal service and call quality specifications.
- Validated that accurate bills can be generated for both the unbundled network elements and daily usage.